

which performs flow control, and an asynchronous transfer method by using the bi-directional communication,

wherein the data transfer method is set by the host device in accordance with a data transfer method set in the target device.

51. A computer program product comprising a computer readable medium storing computer program codes for executing data transmission of host and target devices which are connected by a serial bus, said product comprising:

first transmission process procedure codes for transferring a procedure signal for data transfer by common asynchronous transfer to the host and target devices; and

second transmission process procedure codes for performing the data transfer between the host and target devices by using a data transfer method selected by the host device from an isochronous transfer method and an asynchronous transfer method in accordance with a data transfer method set in the target device.

REMARKS

This application has been reviewed in light of the Office Action dated April 13, 2000. Claims 1, 2, 4-13, 15-18,

20-23, 25-37, and 39-51 remain pending in this application.

Claims 1, 10-12, 17, 22, 25, 34-36, 41, 46, 50, and 51 are in independent form. Favorable reconsideration is requested.

The Office Action rejected Claims 1, 2, 4-13, 15-18, 20-23, 25-37, and 39-51 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,535,334 (Merkley et al.) in view of U.S. Patent No. 5,249,220 (Moskowitz et al.). Applicants submit that independent Claims 1, 10-12, 17, 22, 25, 34-36, 41, 46, 50, and 51, together with the remaining claims dependent thereon, are patentably distinct from the cited prior art for at least the following reasons.

The aspect of the present invention defined in Claim 1 is directed to a data transmission method for host and target devices connected by a serial bus. According to the method, bi-directional communication is performed between the host and target devices, and a data transfer method to be performed is selectively set from a plurality of data transfer methods by a bi-directional communication. The host device sets the data transfer method according to a data transfer method set in the target device. The plurality of data transfer methods includes a synchronous transfer method, in which flow is controlled, and an asynchronous transfer method.

One important feature of Claim 1 is that the data

transfer method to be performed is determined by a sender (the host device) in accordance with a data transfer method set in a receiver (the target device). Accordingly, a processing load of the receiver can be reduced, and the data transfer method can be determined quickly. Further, the data transfer method is selectively set from a plurality of data transfer methods that includes a flow-controlled synchronous transfer method and an asynchronous transfer method. Therefore, reliable data transfer can be performed.

Merkley et al., as understood by Applicants, relates to a system for selecting a communication method to transfer a single message between hosts. Apparently, Merkley et al. teaches that a plurality of communication methods are performed in order of their assigned preferences. When a communication service encounters an error while attempting to send data to another host using one of the plurality of communication methods, the system automatically switches to the next communication method in the order, which is lower in preference than the previous communication method, and performs a communication service with the next communication method. When no communication error occurs in the communication service for a communication method, then that communication method is selected for use in an actual communication.

Moskowitz et al., as understood by Applicants, relates to a hand-held portable transmitter capable of communicating with a variety of different message receivers. Apparently, a transmitter determines a communication protocol required by a receiver selected by a user to receive a message, and communicates with the selected receiver over a communication channel by using a look-up table and software implementation in combination with a telephone interface circuit. A data transfer method to be performed is determined from PSK (phase-shift keying), FSK (frequency-shift keying), and DTMF (dual tone multi-frequency) methods. (Column 7, lines 45-48.)

Applicants submit that a combination of Merkley et al. and Moskowitz et al., assuming such combination would even be permissible, would fail to teach or suggest a data transmission method in which a host device sets a data transfer method according to a data transfer method set in a target device, wherein the data transfer method set by the host device is selected "from a plurality of data transfer methods including a synchronous transfer method, which performs flow control, and an asynchronous transfer method," as recited in Claim 1.

Apparently, Moskowitz et al. is not concerned with the reliability of a communication, because Moskowitz et al. discloses only the use of PSK, FSK, and DTMF data transfer

methods, and makes no suggestion to use either a synchronous transfer method or an asynchronous transfer method. Similarly, as understood by Applicants, Merkley et al. discloses only that the plurality of communication methods is based on the Virtual Telecommunications Access Method (VTAM), the Control Data Set (CDS) method, and the Library Management Unit (LMU) method (column 3, lines 28-62), and also makes no suggestion to use either a synchronous transfer method or an asynchronous transfer method.

Applicants submit that Merkley et al. may actually teach away from having a host device set a data transfer method "in accordance with a data transfer method set in the target device," as recited in Claim 1, by teaching that a communication method is determined by trying a plurality of communication methods according to their assigned preferences. When a tried method works without error, then that method is selected. Applicants submit that such a selection method is clearly different from a host setting a data transfer method based on the data transfer method set for a target, as claimed in Claim 1.

Further, even if Moskowitz et al. is assumed to teach that a host sets a data transfer method based on the data transfer method set for a target, Applicants submit that one of ordinary skill in the relevant art would find the conflicting

teachings of Moskowitz et al. and Merkley et al. confusing as to which to choose. Clearly, the Moskowitz et al. way to choose a data transfer method and the Merkley et al. way to choose a data transfer method cannot both be implemented in the same device.

The courts have repeatedly held that it is improper to use hindsight to selectively pick and choose from the disclosure of the prior art to reject a claim on the grounds of obviousness. The disclosure of the prior art must be considered as a whole. Therefore, if the teachings of the cited art conflict, then they may not properly be combined.

Accordingly, Applicants submit that Claim 1 is patentable over the cited art, and respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a).

Independent Claims 12 and 50 are apparatus and computer program product claims corresponding to Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1. Additionally, independent Claims 10, 11, 17, 22, 25, 34-36, 41, 46, and 51 include the same feature, in which a data transfer method to be performed is selected from a plurality of data transfer methods, including a flow-controlled synchronous transfer method and an asynchronous transfer method, and is determined by a sender in accordance with a data transfer method set in a receiver, as

discussed above in connection with Claim 1. Accordingly, Claims 10, 11, 17, 22, 25, 34-36, 41, 46, and 51 are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

The other rejected claims in this application depend from one or another of the independent claims discussed above, and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

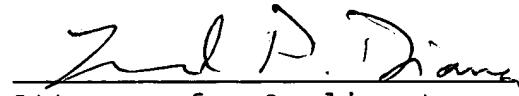
This Response After Final Action is believed clearly to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Response, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

No petition to extend the time for filing a Brief is deemed necessary for the present Response. If, however, such a petition is required to make this Response timely filed, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 06-1205.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

  
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